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USSR Report

MILITARY AFFAIRS

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MILITARY-POLITICAL ISSUES

KRASNAYA ZVEZDA ADDRESSES 'RESTRUCTURING'

Moscow KRASNAYA ZVEZDA in Russian 4 Feb 87 p 2

[Response by Colonel V. Ternovoy to two questions asked by KRASNAYA ZVEZDA correspondent: "1-- What has been done in your collective, in your work section? Tell about what is most significant," and "2-- What stands in the way, and what are the problems you see and the ways to resolve them?" under the rubric "Party Life: How Restructuring Is Proceeding": "Doing the Job"; first two paragraphs are introductory]

[Text] The questions are timely, as they say. The newspaper's correspondent who requested that I respond to them explained: the anniversary of the 27th CPSU Congress is approaching, and the editorial staff intends to begin a new rubric. The year 1987 is the year when tangible results of restructuring must be shown everywhere. In each collective and in each work section. And every communist has to say directly: here is what has been done, this is how we have moved forward, and this is how it has been reflected in the solution of our principal problems. But this this still has to be done away with, perfected, improved... That is to act in the spirit of the requirements of the party congress and the January plenum of the CPSU Central Committee.

Well, the time has really come for such strict questions. For myself, I feel that it is not simple, not at all simple, to answer them...

1. As chief of the department of organizational and party work of the political administration of the Central Asian Order of the Red Banner Military District, I am understandably closer to the problem of party work. And I will speak about that. Changes have taken shape here. I would say that a shift is taking place in the positions of components, the very sum of which is being significantly changed—in contrast to the familiar rule. People are coming to the foreground, and the paper—shuffling which moved them into the background before is being overcome. Although not as rapidly as we would like, the paper methods of management are giving way to lively work on the whole. The work is obviously benefiting from such a shift.

Political worker and officer B. Kashin recently acquainted me with this statistic: he and others in the political department are now spending up to 80 percent of official time directly in the party organizations of subunits and in companies and batteries.

"Soon, you see, we will forget about our offices," Boris Ivanovich joked.

Unquestionably there are adjustments. They have led to a noticeable reduction in paper, and more time has been freed for organizational work both in the political administration and in the units' party organizations. And for many of us the approach to the work itself is becoming different--more responsible, based more on principle, and aimed at achievement of high end results.

We heard genuine satisfaction in the voice of Lieutenant Colonel I. Kozhemyako, the inspector of our department, when he shared his impressions of the trip by a combined group of officers from the headquarters and administrations of the district to one of the formations. They were studying the condition of military discipline. Each participant in the group worked in accordance with his specialization -- the "combat officers" [boyeviki] thoroughly examined the organization and course of training, the officers concerned with troops' performance of duty were interested in how the daily routine is maintained, and rear area specialists verified that personnel were provided with everything necessary... They worked quietly, as the saying goes, respecting the work and dignity of persons. But at the same time, they looked into everything meticulously. The problems which arose were resolved here on the spot. They also finished in not quite the usual way--not with an official conference, but a meeting of the formation's active party membership. Major General Yu. Vorobyev, deputy commander of the district for combat training, who led the combined group, delivered a report at it. I later heard good comments from many communists in the formation on the work of the examiners: they gave an example of how we must work today.

Training also requires restructuring. Today it is very important not only to accumulate, but—what is especially urgent—to rapidly disseminate experience in creative work and to put it into practice in daily work. And there are some gains here as well. Recently, for example, the secretaries of regimental party organizations and instructors of the political departments for organizationmal and party work were witnesses to the proceedings of one of the party committees and participants in the collective analysis of its activity at the same time. And the question was put in the following way: how is the party committee itself being restructured, and how does it lead the restructuring of the work style of the regiment's party organization?

All 13 members of the party committee had been invited to the hearing. Questions were put not only to the secretary, but to them as well. And those present wanted to find out a great deal. What has been done, let us say, to introduce the experience in restructuring the party committee of the guards tank regiment from the Leningrad Military District--experience approved by the Bureau of Main Political Administration of the Soviet Army and Navy? What changes have been made by the deputy secretary of the party committee for ideological work in the spirit of the time requirements? What progress has been made in improving work with the Komsomol organization? How is the party committee carrying out the congress' line on the necessity of reinforcing collective principles in the work of elective party organs?..

The hearing also was very useful for us, the officers of the political administration. Because some problems were revealed here, and many creative ideas were expressed.

If we continue on the political administration—and the question is "What has been done in your collective?"—I will tell you what else has been done. We have begun showing more exactingness toward each other and less complacency. In the past, some persons displayed such an undemanding attitude. We, they say, are the higher authority, everything is clear to us, and there are no questions about it. Now everyone realizes: time has shown each person the necessity of restructuring.

Whereas previously the statements by many of our comrades at party meetings were in the nature of accounting for themselves, problem-solving matters and those of larger scope are raised more and more frequently now. I will not say that we have had no criticism. There has been. But it was expressed more often from above. Now I note that criticism frequently is directed at us, the department heads, when we deserve it. This is a sure sign of moral health and party comradeship in relationships, without which our work is inconceivable. The district's political administration is a special organism. Everything should be exemplary here.

2. Not everyone has become fully aware of the scope and inevitability of restructuring, and some persons believe that it should pass "above" and "to the side"--only not to them. As an example, this arrests one's attention in the party organization where Major V. Sokolyuk is the secretary. They are still living in yesterday here, if we may put it that way. They speak about the vanguard role of communists, but many of them are not fulfilling their pledges in competition, they are not increasing their professional skill, and are lethargic in political indoctrination work. The secretary himself often holds the position of office observer, and if he goes to the subunits, it is only later, in order to "dig out" a few more shortcomings. An outward appearance of work is created, but there is no work itself. Does such a style have an effect on end results? Unquestionably. Part of this has been going on "in the middle ranks" for a number of years.

It is bad if we are going to just reduce restructuring to some kind of superficial "improvements." Complacency and being content with little is very dangerous. For example, a little more criticism has begun at party meetings. Previously, persons "on the same level" were hardly ever called by their surnames, but they call them now--and there are already good results: we are acting in the spirit of the lessons of truth.

If you scrutinize this criticism "on the same level" (and there is generally none directed "above" in that party organization)—some of the observations are not very important. But they are taking persons from combat training exercises and sending them "to earn their wages." And there was a case of fraud. And crudeness is flourishing among certain communist officers. And abuse of official position exists... So how do we have the heart to say that

we have changed the situation? That can only minimize the importance of understanding our course toward working in a new way, toward toughening the demands made of personnel and maintaining the spirit of Bolshevism in party organizations.

Devaluation of the concept of restructuring cannot be permitted anywhere, in any unit, the materials of the January Plenum of the CPSU Central Committee stress.

It is important to move ahead step by step. But it sometimes turns out that there are many discussions about this, but little action. For example, the following was among the first practical tasks: shift the basic workload of political organs to the party organizations. Clearly, a special role is being assigned here to those responsible for organizational and party work in political departments. But many of them are still absorbed in the study of every possible reference, the collection of various data, writing reports for someone, giving lectures... For this reason, Lieutenant Colonel N. Chernikov, Major A. Uglov, and certain others are seldom present in party organizations and are not helping the active membership very well.

I would also like to mention the reinforcement of party organizations' participation in resolving personnel problems. One of the supervisors was relieved of his post and expelled from the party not so long ago. He had abused his official position. If we are to judge by the references, including party references, on the basis of which he was promoted to a higher position, he was an irreproachable person in all respects. They were written in glowing terms. Here is where it really turned out to be "nothing of the sort." He had long ago been criticized for "faults," but they gave evidence of connivance and unscrupulousness.

In responding to the second question of this original questionnaire, I cannot remain silent on my personal case either, of course. Otherwise, it is easy to reproach myself for being moralistic. I myself also have a great deal to improve in this respect. For example, I dream of developing a style so that everything is efficiently and strictly planned and that what has been planned is implemented without fail. I have to tear myself away from routine business more and "become involved" in lower political organs and party organizations. To be more active working out fresh ideas and new approaches to resolve the usual problems, I would think...

In a word, "a shift in the position of components" should take place in each of us in many respects today.

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ARMED FORCES

DEPUTY MINISTER SHABANOV WRITES ON ARMY-NAVY DAY

Tselinograd FREUNDSCHAFT in German 21 Feb 87 p 2

[Article by Vitaliy Shabanov, USSR Deputy Minister of Defense: "23 February—Day of the Soviet Army and Naval Forces—In the Interest of the Security of Our Homeland"]

[Text] The historical situation was thus that the Soviet Union was forced to defend itself against foreign enemies during the very first years of its existence. Our armed forces, which were born in the fire of the October Revolution in 1917, fulfilled their solemn duty with honor. Throughout the years of foreign intervention and civil war, the Red Army decisively defeated the combined, far better equipped forces of the interventionists and the domestic counterrevolution. This was a victory of extraordinary dimensions which helped the first workers and peasants state in the world to survive.

The most serious test faced by the Soviet Union was the Great Patriotic War particularly during the early stages of which the fate of our country was decided on the battlefield. During the course of that war the armed forces of the Soviet Union managed to stop what was then the most powerful military machine in the world—a feat not equaled by any other country invaded by the Hitler fascists. They bore the main burden of the war and made a decisive contribution to the victory over fascist Germany and, subsequently, over militarist Japan. In this war, the armed forces of the USSR defended the freedom and sovereignty of our homeland and saved many peoples from slavery. The defeat of Hitler fascism and Japanese militarism provided the peoples of a number of European and Asian nations with the opportunity to seize power and to start on the road to revolutionary change and a new life. Today, these countries make up a mighty socialist world system.

At this juncture, the primary task of the Soviet armed forces is to protect the USSR and its friends against outside threats. They pursue no other goal because the Soviet Union has no plans for conquering anyone else's territory. But as long as the danger exists that the imperialists might launch wars of aggression and military conflicts, the defensive strength of the Soviet armed forces serves as an important factor helping to restrain the aggressive aims of imperialism and to preserve the peace. The most important component of the military power of our armed forces is their technical equipment. The Soviet Army and its naval forces have the most sophisticated weapons at their disposal today. The military units and naval forces are equipped with missiles of various types, with powerful armor technology, surface ships and submarines and with communication systems. All this military technology and weaponry is in the reliable and skilled hands of our Soviet fighting men who are doing their patriotic and international duty.

We have everything we need for our defense and for the maintenance of military strategic parity.

The Soviet Union has never acted the part of initiator in heating up the nuclear and conventional arms race. It faithfully observes the provisions of the SALT II Treaty. This treaty, which is based on the principle mutually accepted by the USSR and the United States of equality and equal security, placed significant quantitative and qualitative limits on the strategic nuclear arsenals of both sides. As can be seen, this situation is not to the liking of the present U.S. administration which, from the time it entered office, has pursued a policy of achieving military superiority over the Soviet Union by carrying out large-scale programs of stockpiling of strategic offensive nuclear weapons.

It is easy to see that these activities are incompatible with the provisions of the SALT II Treaty; that they run counter to the letter and spirit of that agreement. In concrete terms, the treaty did not permit the United States to build a second new version of the "Midgitmen" [sic] intercontinental ballistic missile or to increase the number of ballistic missiles equipped with multiple warheads. SALT II also placed strict limitations on equipping strategic bombers with long-range cruise missiles. The United States has now commissioned two bombers which are thus equipped, thereby exceeding the overall limits prescribed by SALT II.

U.S. abrogation of the SALT II Treaty clearly constitutes an action aimed at doing away with the priorities which represent the basis for strategic stability.

For its part, the Soviet Union counters the irresponsible policy of the present U.S. administration by pursuing its own policy of peace and international security and by rejecting, for the time being, any abrogation of the limits set by SALT I and SALT II. The Soviet government has issued the following statement: "It is to be assumed that both inside and outside America there is still sufficient political wisdom or simply enough of an instinct of survival so as to prevent the downfall of the entire structure of agreements on strategic arms limitations which has been built up over the past 15 years."

Over and above the intensive development of new systems of strategic offensive weapons, the United States is actively working on the SDI program to deploy offensive weapons in outer space.

In the United States and in other NATO countries there are some who say that the SDI program is America's only salvation from the "Soviet nuclear threat." The fairy tales being spread about the "Soviet military threat" are based on the deception of people who have no knowledge of military matters. The practical peaceful actions of the Soviet Union, the proposal for the destruction of all nuclear weapons by the year 2000 and the initiatives undertaken at Reykjavik take the wind out of the sails of the prevaricators who speak of a non-existent threat.

Even in America, most people do not believe in the "protective" function of the ABM system which is being rapidly developed as part of the SDI program. This was demonstrated in a fairly outspoken manner in a book recently published in the United States by former U.S. Defense Secretary M. C. [sic] Namara. Prominent foreign and Soviet experts have repeatedly pointed out that the problems connected with the defense against a concentrated nuclear ballistic missile attack are insoluble. There are fundamental difficulties involved in providing energy and information to the weapon systems which make up the ABM system and in assuring genuine efficiency and survivability. For another thing, even if such a system could be built, it would be possible to overcome it with the help of far less costly and not necessarily cosmic devices.

The SDI program is part of the offensive nuclear strategy of the United States and it opens up a new theater of warfare—outer space. Realization of the program will result in undermining the Soviet-American ABM Treaty and in an even less controllable escalation of armaments with all the consequences arising from this. From a military point of view, the SDI program represents a danger of the first magnitude to all of mankind in that it poses a direct threat of warfare in space and from space. Unless steps are taken right now to stop the buildup of nuclear and cosmic weapons, the trend of events could slip from human control.

For this reason, the Soviet proposal for the liquidation of all nuclear weapons by the end of this century and the establishment of a comprehensive system of international security corresponds to the real interests of all peoples, all nations, of all humankind. In this day and age, mutual, general security is a must. As M. S. Gorbachev emphasized in an address to the 27th congress of the CPSU, "the nature of modern weapons does not leave a single nation with the hope of protecting itself by means of military technology alone—let us say by building up a defense system, however powerful it may be. The maintenance of security is increasingly taking on the character of a political task and this is why it can only be resolved by political means."

Vitaliy Shabanov, Deputy Defense Minister of the USSR.

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ARMED FORCES

EDITORIAL CALLS FOR IMPROVED TACTICAL TRAINING

Moscow KRASNAYA ZVEZDA in Russian 5 Feb 87 p 1

[Editorial: "Improving Tactical Training"]

[Text] The most important indicator of the fighting efficiency and combat readiness of troops and naval forces is the level of tactical and specialized tactical training. Tactical training is the core of field, air and sea training of personnel. Its thoughtful planning, the efficient organization of every drill and exercise, and an approach to solution of all the problems of improving the quality of tactical training and combat organization and to methods of utilizing combat capabilities of equipment and weapons which is creative and innovative and meets the requirements of reorganization is the priority task of commanders, political organs and staffs.

Now, when the course has been set in the army and navy toward improvement of all quality indicators, the role of bringing the training of personnel in units and on ships as close as possible to combat reality is increasing even more, and tactical and specialized tactical training is becoming the pivot of the entire training process. At the same time, the closest attention is being devoted to problems of decisive importance for combat success: thorough reconnaissance of the enemy and his reliable fire damage, the efficient interaction of the forces and resources of the different branches, and ensuring surprise and impetus in actions. In the course of battle drill and tactical exercises, personnel are developing readiness for extended combat engagement, the capability of fighting continuously day and night and of adjusting to normal living conditions in the field.

The training process has been organized precisely this way, for example, in the "N" guards tank regiment, where one of the battalions is commanded by Guards Lt Col A. Adakhovskiy (Kiev Order of the Red Banner Military District). Here they are perfecting tactical, firing and all types of special training in close interaction and achieving increased efficiency in every field exercise. At the same time, personnel are being taught to overcome not by numbers but by skill, to engage in aggressive and maneuvering actions, and to endure significant morale and psychological and physical burdens. The officers have been set the task of resolving problems of combat organization and providing for every aspect of it under conditions of a strict time limit.

But there are also examples of another type. They attest to the fact that the increased requirements for tactical preparation of troops and naval forces are still being taken into account far from everywhere in personnel training. Sketchiness, lack of imagination, indulgence and oversimplification are being permitted in its organization. Certain commanders and staffs are unjustifiably devoting little attention to the mastery of tactics for actions at night and in the mountains, as well as when cut off from the main forces, for encircling the enemy, when surrounded in combat and withdrawing from it, and so forth. Here and there insufficient attention is also being devoted to the problems of organizing a shift from one form of combat action to another.

Inspection drills and exercises conducted in this training year indicate that shortcomings and negligence in organizing tactical and specialized tactical training are being eliminated slowly. For example, noticeable changes for the better have not taken place thus far in the "N" motorized rifle regiment, where one of the battalions is commanded by Maj L. Omarov (Transcaucasus Order of the Red Banner Military District), and the necessary conclusions have not been drawn from the lessons of last year in the "N" tank regiment, where Capt V. Denisov is serving (Siberian Order of the Red Banner Military District). Frontal experience, as well as the experience of officers who have served as part of the limited contingent of Soviet troops in Afghanistan, is being inadequately utilized here for improving tactical training.

The commander is the central figure in training and indoctrinating personnel. Taking this into consideration, the training of commanders in a unit and on a ship must be approached as well. Exercises in the system of commander training must be conducted more frequently in the field, conforming tactics to their interests, and more extensive use must be made of active forms of training--group exercises, tactical briefings, training with the use of equipment, communications, computers and automated control systems.

Improvement in tactical training presupposes an increase in the sustained training of personnel and training commanders to resolve an entire combination of tasks related to the conduct of combat actions. It is well known that tactical exercises with field firing are the best school for this. So that they become the most effective form of training troops and naval forces in fact, not in words, commanders have to be purposefully and consistently instructed in the practice of conducting them, taking the requirements of advanced methods into account. It is necessary to persistently strive to ensure that personnel of the subunits of the different service branches acquire the skills to resolve their specific tasks in interaction in tactical exercises with field firing and learn to make efficient use of firing facilities in a complex tactical situation during the day and night in a locality typical for a given region.

It is important to steadily put into practice the principle of learning what is necessary in combat. And this means: the situation in exercises should be such that trainees acquire a comprehensive idea of what they may encounter in real combat—the necessity of acting under conditions of strong antiaircraft defense, electronic countermeasures by the enemy, where the objectives hit are well protected and maneuverable, and so forth. Only when all this is learned and when the equipment of the field training base corresponds to the

requirements of directive documents and is utilized with maximum effectiveness can we count on personnel acquiring a high degree of preparedness for combat and commanders acquiring good experience in controlling all-arms forces and equipment.

The most important means of ensuring the effectiveness of exercises is purposeful party-political work, organized by taking into account the tasks being resolved and time requirements. Today it is particularly necessary to sharpen the skill of work with people in a complicated, intensive situation by directing it toward successful resolution of tactical training tasks.

Commanders of subunits have to be more objectively trained to utilize the mobilizing force of socialist competition to increase the effectiveness of exercises.

The duty of every officer is to persistently train the personnel of units and subunits to fight in the modern way, to overcome the enemy not by numbers but by skill, to surpass him in rapidity of actions, in decisiveness and initiative, and in the capability of utilizing the entire arsenal of forces and equipment in combat.

Relentlessly improving the tactical training of personnel means ensuring that the combat readiness of the army and navy is further increased and that the tasks set by the party for military personnel are carried out successfully.

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AIR/AIR DEFENSE FORCES

P-42 CLAIMS RATE-OF-CLIMB RECORD

Moscow KRASNAYA ZVEZDA in Russian 25 Jan 87 p 4

[Article by engineer G. Grishayeva: "To the Stratosphere in Seconds: Epilogue to the P-42 Records"; first paragraph is italicized introduction]

[Text] "Flights to establish world rate-of-climb records for 3, 6, 9 and 12 kilometers were made on 27 October and 15 November 1986 by Comrade V. G. Pugachev in a P-42 aircraft, surpassing the previous world records set in an F-15. We congratulate pilot Viktor Georgiyevich Pugachev and the entire collective of engineers, technicians, workers and testers on the outstanding achievement! [Signed] The OKB [experimental design bureau] Management."

This was the first "official" congratulation for the person who crowned the labor of many, many persons working on the ground with victory in the sky. Soviet aviation has added eight records at one time to the list of world achievements for rate-of-climb in an aircraft with turbojet engines: four overall records in the land-based aircraft class and four in the subclass of medium-weight aircraft (takeoff weight up to 16 tons). It will be recalled that the previous records were set as far back as the beginning of 1975 (on 16 January, to be exact) by pilots R. Smith (for 3,000 meters) and MacFarlane (for 6,000, 9,0000 and 12,000 meters) in the F-15 "Eagle" fighter, which is held in particular esteem in the Pentagon not only as a tactical aircraft, but as a carrier of space weapons.

"The record is not an end in itself," the general designer said. "This was a unique test for our collective and for the entire Experimental Design Bureau bearing the name of the famous designer P. O. Sukhoy. After all, the world achievement reflects the technical and technological level reached in a given stage of aircraft manufacturing, and it is the criterion for production quality, the basis on which new design concepts and new engineering solutions are originated. What they call the limit today becomes commonplace tomorrow. Speak with the people, and they will tell you about all the stages in preparing for and conducting this test...

"The countdown connected with preparation for these flights began several months ago," say the flight service specialists, whose signature accompanied each flight plan. "An aircraft which had nearly completed its service life was selected. Appropriate modifications were conducted on it. It is common knowledge that rate-of-climb is one of the major indicators in aviation."

Major and difficult. Years were spent in the struggle with minutes; the first jet fighters climbed to 10 kilometers in 5 minutes. Today the count is in seconds... Our P-42 has two powerful turbojet engines. That is its power-to-weight ratio.

They began with development of profiles for the flights: first to 3,000 meters, then to 6,000, 9,000 and 12,000 meters. The characteristic of the profile for 3,000 meters was the aircraft's rapid transition to vertical flight at a speed somewhat in excess of 600 kilometers per hour. For profiles of the higher altitudes, acceleration is increased, reaching a speed of more than 800 kilometers per hour.

As with normal test flights, all the "details and minor items" were worked out. For example, more careful and precise fueling was required, for each spare kilogram on board reduces the rate-of-climb. They also had to work on the equipment for holding the aircraft in the takeoff position, when the engines are run up to maximum thrust. After all, the count of record seconds is made from the moment the aircraft breaks away. In that moment before takeoff, the aircraft resembles an enraged beast only an instant before it springs. And a huge caterpillar tractor equipped with electronic locks was the means of holding back the aircraft.

The P-42 flights were made under less favorable temperature conditions than those chosen by the Americans. At low temperatures, the higher air density helps to increase the engines' thrust (the F-15 flights were made in winter in the northern United States). So the so-called high-temperature flights which we made during the summer were not to no avail.

But achieving high rate-of-climb results was still not everything for us, so to speak. What was achieved had to be recorded in conformity with the exacting requirements of the international sports code of the FAI [Federation Aeronautique Internationale]. And there were many difficulties here as well. The time to "catch" the aircraft with measuring devices is extremely short. High precision is required in recording the aircraft's "instant of breakaway." Electronic locks also were needed for this. It was required to install a transponder in the aircraft to work with the radar station, which automatically tracked the P-42 with camera theodolites. Increasing the recording frequency made it possible to increase the accuracy of altitude measurements by three times as much.

The high professional skill and painstaking--I would say meticulous--work by all the specialists in the measurement complex helped to resolve these as well as other problems.

Preparation for the flight was begun 2 hours before takeoff, supervised by specialists of the central instrumentation control center service. An "OK" came from here to all the measuring services. A. Ilin, the sports commissar, and V. Pavlov, the international category judge, were present here.

Now the start of the flight...

After the engines were started and the power was set, the recording was begun. The aircraft breaks away from the takeoff position. A short run, and it is already rocketing high into the air in a vertical climb. The flight will be completed in a few seconds, but it is already clear that the recording proceeded according to standard. Now it is the turn for processing the results obtained—the last link in the chain of establishing the record result. According to our data, these were 37.10, 47.10 and 58.14 seconds.

"Both of the days when we made the flights establishing the world records were typical in general," says Test Pilot First Class V. Pugachev. "They were different only because of the more careful preparation of the takeoff area and the control and measuring instrumentation. As far as the human factor is concerned, the main thing, perhaps, was the responsibility. I had to complete the last stage of the work carried out by a large collective of designers, estimators, testers, and technical personnel. The organization of the work itself, involving many airfield services, was one of the most complex links in the chain of preparing for the record flights. And credit here goes to the operations manager, R. Martirosov. And of course, special thanks to the technical personnel of the crew."

They did not select a special aircraft for the record flight, but an ordinary, common aircraft, with which they also demonstrated the high level of domestic aircraft manufacturing. And first of all in the fields of aerodynamics, airframe design, and engine manufacture.

What did I feel on the flight? Five G's. What were my relationships with the aircraft? There is no time for analyzing feelings in the sky. It's work there. And man and aircraft are a single unit, connected by one nerve. In order to achieve this, one must begin to be familiar with the aircraft from zero, as they say, from its first rough outlines. Then take part in the designing, modeling, and bench tests. At times the recommendation of pilots can be very much to the point here. Especially on problems of analyzing the cockpit and equipment layout... I think the P-42 has not revealed all its capabilities yet and can demonstrate even higher results. And not only in its rate-of-climb.

And what kind of a designation is P-42?

The general designer of the OKB explained:

"It is more a symbol than a precise designation. The P-42 is a tribute to the memory of the Soviet people who fought heroically at Stalingrad in the grim year of 1942. A great turning point was marked in the battle on the Volga then, during November."

AIR/AIR DEFENSE FORCES

FLIGHT SAFETY: TRAINING FOR NIGHT FLIGHTS

Moscow KRASNAYA ZVEZDA in Russian 22 Jan 87 p 2

[Article by Guards Lt Col Yu. Zvyagin, operations officer, under the rubric "For Flight Safety": "At Night in the Clouds"]

[Text] Guards Sr Lt G. Korneyev was flying in the clouds at night. In accordance with his assignment, the pilot was flying the aircraft at high angles of bank and pitch. After making a steep turn and then putting the aircraft into a steep dive, he suddenly had misgivings about his instrument readings and lost his spatial orientation.

Being confused, the pilot stopped carrying out instructions from the ground. He understood his mistake only when he finally came out under the clouds and saw the runway lights and the floodlights illuminating the concrete area. It appeared that he was approaching for landing in a steep bank, at a right angle to the runway. He had to go around again. Only after this did the reassured Korneyev land safely in accordance with prompting from the ground.

This case is very instructive, in my view: a rather experienced pilot, not a novice, made the mistake. However, he proved to be psychologically unprepared for night flights in the clouds. When the illusion of a bank, that is, a false representation of the aircraft's attitude in space, was created suddenly, Korneyev trusted his senses, a subjective perception of flight, and not his instruments, and in trying to level off the aircraft, he only compounded the error. It was followed by other errors...

It is difficult for the military pilot to orient himself visually on flights in the clouds at night, especially if there are no breaks in the clouds, a solid overcast, let us say. Under such conditions, the pilot's ability to fly on instruments, in accordance with readings which must be trusted completely, comes to his assistance. Guards Lieutenant Korneyev proved to have low skill in instrument flying. When he entered the clouds in a bank, it was as if his subconscious photographed the miniature airplane on the gyro horizon in relation to the overcast ceiling and retained this attitude in his memory for some time. For this reason, the pilot was unable to get rid of the false perception, and he began having doubts about the accuracy of the instrument.

This example once again confirms that especially thorough training is necessary for flights in the clouds at night—one of the most complex tactical training assignments.

This coincides with my own flight experience. Before flying at night, as a rule, I carefully thought out my actions each time for a complex in-flight situation, studied the appropriate instructions, and practiced on instruments in the simulator, since in the clouds they are the only source of information on the true attitude of the aircraft in relation to the horizon. In the course of the exercises, one instrument or another—the gyro horizon, altimeter, the rate-of-climb indicator, the airspeed indicator, the compass system—"malfunctioned," let us say. This trained me to verify the aircraft's attitude from the readings of backup instruments. Training such as this on the ground helps to perform with confidence in difficult situations in night flying and to cope with the consequences of illusions.

Incidentally, illusions are possible at night even under visual flight rule conditions. I recall such a case, for example. In the traffic pattern at an altitude of 600 meters, a young military pilot suddenly reported:

"I have icing on the windshield."

Apparently the conditions for icing did not exist, although we could not help but believe the pilot: any changes in the atmosphere could have taken place. The squadron commander and I, as operations officer, quickly analyzed the situation and helped the pilot approach for landing. But on the ground we were unable to detect any traces of icing. But then the following was discovered when we inspected the cockpit fittings. In accordance with instructions, all the ultraviolet lights intended for illumination of the cockpit instruments at night should be aimed at the instrument panel, with their brilliance adjusted by changing the setting of hoods and a rheostat. But in this case one of the lights, completely open and turned up to full intensity, illuminated the front of the transparent canopy, creating the illusion of icing. The incompetent actions of the pilot, who was not able to comprehend the situation, was the consequence of poor training for night flying.

Certain other phenomena which a pilot may encounter in night flying require that pilots have an appropriate psychological frame of mind. At times, let us say, after breaking through the clouds at altitude, you notice their strangest shapes, which most often resemble mountain peaks. If you take your attention away from the instruments at this moment, you catch yourself sensing that the aircraft is either climbing, or descending, or banking.

When flying over dense, electrolyzed clouds that are as level as a desert, the impression of inverted flight is created under certain conditions: the stars above are reflected below on the clouds. A similar illusion also is created over the surface of water. The hand pulls to put the aircraft in the "correct" attitude, but in fact, by giving way to the spurious sensation, it inverts it.

There are several ways of reestablishing the correct perception of flight in these cases. Firstly, by not looking outside. Secondly, the cockpit canopy should be covered with a hood in order to concentrate attention only on the instruments. Thirdly, by turning on the autopilot. At the same time, sharp movement of the controls must be avoided. If some maneuver is being performed, it is better to fly the aircraft by instruments in level flight. After this, turn your head to the left and the right, watching the indicators, and relax. And when the illusion disappears, return the aircraft to the assigned flight mode.

And how many unforeseen situations are encountered on tactical low-altitude flights in the clouds at night! This coincides again with an example from my own flying experience. That time I was to make a bombing run. As always, I was fully prepared for the flight. Inspection of my readiness for flights proceeded without a single criticism. I came out to the bombing range with absolute confidence of success. And the bombs, it was revealed later, actually hit the target. But I had barely dropped them when everything around me was lit up by an unnaturally brilliant light. I began to have the illusion that the aircraft was on fire. My nerves were strained to the limit. However, the aircraft continued flying and all the instruments were functioning accurately. "What had happened?" was the thought that I racked my brains over. "Perhaps fragments of the exploded bombs hit the aircraft? But after all, I had dropped them from a safe altitude, strictly in accordance with instructions..."

The illusion lasted for several more seconds, and suddenly I realized that the cockpit and everything around it had been illuminated by the flashes of the explosions reflected from the clouds, as if by a huge mirror.

I could not have foreseen such a situation myself, but more experienced military pilots certainly should have prepared me for the possible appearance of the unusual "illumination." I will note, by the way, that phenomena such as flashes, luminescence of individual parts of the aircraft, and sparks on transparent surfaces often occur as the result of the cockpit canopy's contact with dense electrolyzed clouds. At times it appears that sparks are scattered off the front of the canopy. The impression is as if someone had lit a sparkler. These phenomena distract and disturb, of course, but one must compel himself by force of will not to look at the sparking, but to concentrate his attention on the instruments, report his observations to the operations officer, change altitude, or in especially complex situations, he must discontinue the mission and return to his airfield. This will help to avoid tDe causes of an aircraft accident.

Training the pilot's mind by utilizing advanced methods is a reliable way to improve the skills of confident flying at night in the clouds and to prevent errors because of illusions.

AIR/AIR DEFENSE FORCES

DISCUSSION OF PROBLEMS OF TRAINING FOR FLIGHTS OVER WATER

Moscow KRASNAYA ZVEZDA in Russian 6 Feb 87 p 2

[Article by Lt Col of Air Defense Forces S. Mikhaylov, military pilot first class: "Legends of the 'Star Pocket': They Crop Up Only Where Methods of Training for Flights Over Water Have Not Been Perfected"]

[Text] Several persons came out of the preflight rest building. Glancing over the sky from force of habit, one of them said:

"I don't see the moon, but the stars are dazzling."

"There will be no such illumination when we are flying over the ocean. They say that in the cockpit of an aircraft you feel as if you are in a 'star pocket'--stars both above and below."

It became clear that replacement pilots who had recently arrived in the unit were engaged in conversation. Before this they had flown over the ocean, but during the day, and now they were expecting night checkout flights far from the shoreline. The pilots' anxiety was understandable: they had no experience, but they had heard different hangar tales. Even about this "star pocket."

This is the fourth year that I have been flying in this country, more often over water than over land. Day and night, in any kind of weather. At first I prepared myself for having the stars both above and below. But after all, the so-called "star pocket" occurs only when it is completely calm, and appears very seldom at sea, especially in our latitudes. And the complicated technique of flying a supersonic interceptor fighter is not responsible for this phenomenon. It is something else.

Even experienced pilots who have accrued more than 1,000 hours do not feel entirely confident on their first flights over water. It is even more difficult for recent military school graduates. What are the charcteristics of aviators' work far from the shoreline?

In flying over land, the pilot continuously sees a large number of reference points below which differ in shape, coloring and other features. They serve as a connecting link with the land and play an important role in relieving the

military airman's psychophysiological burden. During flight over land, a person's gaze moves from the instruments from time to time and skims over the ground, as he notes the continuous change in setting. The pilot gets less tired, and at the same time he automatically makes a conscious comparison of the locality with a chart studied beforehand. The pilot is calm and composed in such work.

Everything is different in overwater flights. I will demonstrate this in my own example. Once I had to make an extended route flight over the ocean. I plotted the courses and calculated the flight conditions and fuel consumption for the different legs of the flight. I was confident of the aircraft's reliability—I had flown this type of fighter for over 10 years.

At first the flight proceeded as usual. The shoreline was visible, the engines were running smoothly, and the instrument readings were normal. But then the shoreline disappeared, and it seemed to me as if the fighter was hovering in one place. I looked at the airspeed indicator—the needle was on the mark close to 1,000 kilometers per hour. I banked, but the horizon blending with the water did not change its position, and below there was a uniform grayness the color of lead, either 100 meters or 8,000 meters away.

It had become hot for some reason. I glanced immediately at the engines' temperature gauge—the temperature was normal. "Perhaps the cockpit temperature control device had malfunctioned?" And I was ashamed that for an instant I had had misgivings about the aircraft's working condition. All systems and units had been operating in the assigned modes.

One may hear that a pilot flies a multi-ton fighter with two fingers of his right hand. And it is that way. Now and then in flight I have discovered that my hand is not holding the control stick, but resting lightly on it, sensitively picking up each movement of the control surfaces, being ready to respond instantly to any deflection. But I noticed right away on that flight over the ocean that my left hand was firmly holding the throttles and my right hand was gripping the control stick.

For me, that flight became a struggle with myself. It was completed safely, but I was compelled to think about many questions related to pilots' training for flights. Take the acute sensation of "solitude," for example. It disappears after a number of flights over the ocean. But its effect on young pilots also may be considerably reduced. So on long route flights far from the shoreline, the desire emerges to press the intercom button and transmit, as if to hear one's own voice. But this does not provide for radio communication. I think the inclusion of several requests from the command post at intermediate stages of a flight should be considered in planning missions for young pilots. After hearing the tactical control officer's voice, the pilot finds composure. I have noticed that a pilot responds to a command post request in 2 or 3 seconds, as a rule, on a flight over land, whereas the response is instantaneous during an overwater mission. So the person is under tension, continuously waiting for information from the ground.

Majors I. Zakapnov and A. Kusochkin, experienced training specialists in the unit, conducted a number of studies of their subordinates' behavior during flights over the ocean. They noted that the pilots' attention was mainly concentrated on the group of instruments monitoring engine operation, whereas the navigation instruments are monitored more frequently on flights over land. The pilots stated frankly that they listen intently to the rhythm of the engines' operation on the flight, and automatically calculate the fuel consumption mentally in advance of the instrument readings.

In performing different flight maneuvers in a zone extended over water, pilots appear to show indecision on their first flights. It manifests itself in the following way. When flying over land, a pilot selects a typical reference point, "ties himself" to it and vigorously puts the fighter in a dive, the flightpath is characterized by completeness in directions, and the maneuvering demonstrates initiative. Over water, the pilot's actions are altogether different. In descending maneuvers he flies the fighter as if he is considering whether this is worth doing, and his movements are careful, as if feeling for each meter of altitude.

"In observing the trainee's actions from the instructor's cockpit," Major Kusochkin said, "I devoted my attention to the control stick--it was not stationary for an instant, but constantly in motion. If the assignment called for descending at a vertical speed of 10 meters per second, the pilot maintained 5 to 7 meters per second, but never exceeded it. Even when he made a 30-degree banked turn, I noticed a tendency to decrease it by climbing at least several meters of altitude in the process..."

Flights in the clouds over water at low altitude are considered the most complicated, requiring maximum use of professional knowledge and skills, strong will and composure. It makes no difference if it is day or night. The water is not visible, but the pilot intuitively feels in his bones that it is near. Nervous tension reaches its peak. The possibility of error is increased. It happened that way once with young pilot Lt S. Amerkhanov.

The instructor in the training area, Major Kusochkin, noted that the lieutenant was not moving the fighter's control surfaces in the usual manner. This was not the first flight with Amerkhanov, and the instructor was accustomed to his subordinate's flying technique. This time Kusochkin saw that the control stick began moving jerkily when the aircraft was brought out of a "zoom," and the aircraft began descending, although the assignment called for the pilot to make a banked turn. "Discontinue the assignment!" the instructor ordered. "I'll take the controls."

After landing, Lieutenant Amerkhanov openly admitted to the commander: "It seemed to me that the water was very close all the time. I began distrusting the instrument readings. And after that I didn't understand myself what kind of position I had gotten into..."

The pilot had lost his spatial orientation in the air. The officer was not permitted to make solo flights that day. But soon afterward, a similar incident took place with another young pilot, Lt A. Porymov. Before this the officers had flown over land under instrument conditions and were considered strong pilots. Later on, incidentally, they confirmed their reputation—Amerkhanov was assigned to the position of flight commander. And what happened with him in that flight assignment?

The officers had not been prepared psychologically for low-altitude overwater flights. The same thing happens with more experienced pilots as well. I have had occasion to see first-rate aviators returning to the airfield after such flights who walked away from the aircraft to settle down.

Preliminary training for a flight means a great deal. It is impossible to predict everything that can happen in the air, of course, but the pilot must play through the possible situations on the ground. The assistance of experienced military pilots who have themselves gone through the difficulties of flights over an area without reference points is valuable for young aviators. Situations in flight are repeated in most cases. And a direct participant's account of how he recovered from them provides psychological strength for the young pilots.

As a rule, we give the flight school graduates a familiarization flight in the area upon their arrival. The flight is over land. The officers familiarize themselves with the distinguishing reference points and become accustomed to them. But when they find themselves over the water, it presents many surprises for them. I think that instructors should give their trainees familiarization flights over water and let them "feel" with their eyes what it is like. In checkout flights in a combat training aircraft, the instructor could establish radio silence for the trainee and check his flying technique only under the hood or in the clouds. All this increases the pilot's mental stability.

I want to dwell further on a point such as strict observance of consistency, even gradualness, I would say, in putting young pilots into service. Let us take their training for low-altitude flights, for example. It is extremely dangerous to "jump" right away from 5,000 meters to 500, let us say. The instructor should help the trainee become accustomed to the appearance of the water by gradually decreasing altitude on checkout flights. And it is best to plan them at the start of the exercise, when the pilot's receptivity to each element of the flight set forth by the instructor is much greater than at the end of the exercise.

If the methods of training young pilots for overwater flights are thought out in detail and checked carefully in practice, the difficulties will recede into the background and the apprehensions will vanish without a trace, including those about a "star pocket."

FROM THE EDITORIAL STAFF: The article by Lt Col Mikhaylov concerns aviators taking turns in flights over land and water. Naturally, naval pilots, and particularly those on ships, the representatives of those branches of aviation where flights over the ocean are routine, have especially wide and valuable experience. We think a discussion by them on the newspaper's pages would be beneficial and interesting.

NAVAL FORCES

SENIOR OFFICERS CENSURED IN HEATING-PLANT EXPLOSION

Moscow KRASNAYA ZVEZDA in Russian 17 Jan 87 p 5

[Report by Capt Lt P. Ishchenko, KRASNAYA ZVEZDA correspondent, Red-Banner Northern Fleet: "Cleaning Up After an Accident"]

[Text] A meeting of the Northern Fleet's Military Council was held on 15 January. It was chaired by Admiral I. Kapitanets, fleet commander, and discussed in detail the situation which had developed in the city of Severomorsk as the result of an accident in the heat- and water-supply system. Vice Admiral S. Vargin, member of the fleet's military council and chief of its political directorate, has reported to the KRASNAYA ZVEZDA correspondent that as a result of the steps taken, practically all of the homes have now been reconnected to the heat-supply system.

The main cause of the accident, Vice Admiral S. Vargin stated, was the irresponsibility and negligence of people in charge of the fleet's Naval Engineering Service: Colonels S. Pykach and B. Khanukov; Lieutenant Colonel V. Mager, chief of the office of the Naval Engineering Service at the Severomorsk Garrison; and other officials. The following were sternly admonished by the military council for errors committed in preparing for winter: Rear Admiral V. Denisov, deputy fleet commander for rear services and chief of fleet rear services; Major General V. Zakimatov, deputy fleet commander for construction; Captain 1st Rank A. Naumov, chief of the fleet's capital construction directorate.

In the process of cleaning up after the accident, an investigation of the causes revealed serious deficiencies in the political and indoctrinational work performed with the servicing personnel of MIS [Naval Engineering Service] subunits, for which the political organs headed by Captains 1st Rank A. Prisyazhnyuk and L. Paralov are responsible.

The military council has recommended that Colonel B. Khanukov, deputy chief of the fleet's Naval Engineering Service, be discharged from the Armed Forces, and that Lieutenant Colonel V. Mager, chief of the Severomorsk Office of the MIS, be removed from his position and demoted to a lower one.

The military council has outlined specific steps for clearing up the last effects of the accident and for providing assistance to the victims. In

addition, specially formed commissions have been instructed to make a thorough study of the actual situation with respect to the supply of heat and water at all of the fleet's garrisons, to rapidly correct existing shortcomings and to provide necessary back-ups for the systems.

The fleet command and local authorities are doing everything necessary to see that this sort of thing is not repeated.

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NAVAL FORCES

SIDOROV ON COMBAT READINESS, RESTRUCTURING

Moscow KRASNAYA ZVEZDA in Russian 9 Dec 86 p 2

[Interview with Adm V. Sidorov, commander of the Pacific Fleet, by Capt 1st Rank Yu. Timoshchuk, KRASNAYA ZVEZDA correspondent, under the rubric "Combat Training: Reserves for Acceleration": "Potential for Growth"; first paragraph is KRASNAYA ZVEZDA introduction]

[Text] One glance at a map of the World Ocean is enough to understand the large scale and complexity of the missions which fightingmen of the Pacific Fleet have to carry out in the combat training. Their area of responsibility covers enormous expanses, where Pacific Fleet ships are permanently located. In an interview with Capt. 1st Rank Yu. Timoshchuk, our correspondent, Adm. V. Sidorov, commander of the Pacific Fleet, talks about what is most important in the fleet's work today, about the place occupied in it by the problems of restructuring and acceleration and how they are being embodied in practical deeds.

[Question] Comrade Admiral, in your view, what is most typical of the fleet today and how has the beginning of the training year been noteworthy from the standpoint of the contemporary demands with respect to strengthening combat readiness and military discipline, and improving the combat skill?

[Answer] In everything occurring in the units and on the ships, we are presently interested primarily in qualitative advances in the combat and political training, and in their stability. These things, we have become convinced, are a very accurate indicator of whether progress is being made and how the restructuring is proceeding. Take the neuclar-powered missile cruiser Frunze and the aircraft-carrying cruiser Novorossiysk, for example. This past training year, their crews mastered a number of new tactical techniques for using the weapons and equipment, and brought the organization of the service and the training process up to a new level. This is real acceleration, which, of course, indicates not merely growth in and of itself, but absolutely a new quality of growth. I could cite other examples.

In short, positive trends have taken shape in the main areas of the fleet's work. The task is now one of making them stable, making them irreversible. A very acute and intense struggle is underway to achieve this. Unfortunately, however, there has not yet been a fundamental breakthrough in the fleet. How should we regard the fact, for example, that there are many collectives

which still use yesterday's yardsticks in the shadow of the outstanding ones. We are not comforted by the thought that there have always been leaders and always been laggards, as they say, that this situation is just about unshakeable. The party today is providing a graphic lesson in breaking down old, seemingly permanent concepts which have led to stagnation, a lesson in new thinking, a new regard for matters. Specifically, we shall not achieve our goal if, along with the successes achieved by some, there is a slipping into the ranks of laggards by others, which occurred with the large ASW ships Nikolayev and Strogiy. Both crews were once known for their achievements. Instead of working even harder, however, they considered their mission accomplished once and for all. That is, the strength was not there, and the quality did not grow into a stable thing.

This is why we are not inclined to exaggerate the positive changes which have taken shape in the fleet. They are mostly a confirmation that the course of acceleration which we have taken is the correct one, but there is still a lot of restructuring to be done both at the leadership level and at the sites themselves.

[Question] We have heard statements to the effect that some [people] have "been living in the new way" for a long time now. They are prepared to render their reports, so to speak, on the restructuring.

[Answer] Yes, we still encounter such attitudes. In the naval infantry unit in which Lieutenant Colonel V. Raspopin serves, for example, the entire "restructuring" amounted to talk about "clearing away old obstructions." In the process they lost a lot of good things which had existed there and had provided a foundation for further qualitative growth in the combat training. We do not need simulated, furious activity or showy actions.

One of the reasons for this, I believe, is that certain comrades regard the restructuring as just another campaign, which, they say, will "run its course," and then everything will be the same again. Another delusion is that things can be done in the old way, just with new slogans. Some time ago, an out-and-out flood of paperwork swept through certain of our units. It was supposed to show that a great deal of work was being done there to ensure the navigational safety of the ships. This matter does indeed always need to receive special attention. But not in a bureaucratic way whereby people barricade themselves away from actual practical work with an avalanche of reports, by shifting responsibility down the ladder. And the fact that we have still not eliminated the preconditions for navigational accidents further demonstrates the incompatibility of bureaucracy with geniune restructuring.

We shall resolutely rid ourselves of harmful methods of leadership. Some people have already tasted the seriousness of our intentions. Specifically, Captain 2nd Rank V. Ionov and Captain 3rd Rank V. Fadeyev have been relieved of their duties as commanders of the ships Nikolayev and Strogiy, which we have already mentioned. These were extreme steps, of course, but we were forced to take them. They too demonstrate the acuteness of the present situation, however, in which the handling of the restructuring has essentially become a matter of the personal responsibility and discipline of the officers.

Yes, life convinces us that we now need a particular discipline -- the discipline of restructuring, I would say. But it demands not only order and precision in the everyday service, but also a new attitude, initiative and selflessness in the work, a readiness to assume responsibility. And this trend is growing stronger every day. The attunement and the work rhythm are changing for many. One senses that people have straightened themselves up, that they are stricter toward themselves and others. To some degree, Captain 2nd Rank I. Fokin, submarine commander, could serve as an example of this kind of discipline in Things were going fairly well for him even before, but the officer sometimes lacked independence. This did not entail any serious complaints about him, by the way. Furthermore, it is not always possible to determine from the sideline when a commander is demonstrating valid caution, and when he is just playing it safe. Fokin found the strength and courage, first to look into his shortcomings--from a standpoint of principle, in the party way-and then to overcome them. This shift in the commander's thinking proved to be very important for the entire crew of the submarine, which recently became an excellent one.

The main thing we now demand first of all from the commanders is an inner restructuring, reflected in additional effort in their work. We demand that everyone first seek and find in himself the causes of existing difficulties, and not put the blame on "circumstances beyond our control...."

[Question] But what about the real, objective difficulties with which everyone is very familiar? They frequently make themselves felt during the mastery of new equipment, for example. The repair work is not always done well. And this places an additional load upon the personnel who are forced to correct the defects left by the repairmen.

[Answer] I agree that this problem exists. I have investigated cases in which something was not completely repaired, not checked out or adjusted. It has been justifiably stated that a great deal needs to be improved in the repair work.

Yet it should be pointed out that there is now a marked acceleration also in matters pertaining to improvement of the quality and reliability of certain kinds of equipment on the ships, the development of the repair plant, and other matters. Big changes are imminent at the level of science and industry, and this is already being felt.

And let us not forget about the position taken by the crews and commanders of ships under construction or in repair. If it had always been an earnest and principled one, I believe, certain of the "objective causes" mentioned would have disappeared by themselves or would at least not have been so perceptible. Modern models of combat equipment and weapons are being successfully mastered on one of the large ASW ships, for example. With respect to firing accuracy and range, the men have already surpassed in exercises the standards of excellence specified in the tactical gun books. This has resulted in large part from the concerned and creative cooperation between the ship's crew and representatives of the design institutions and industry. And a high level of professional training on the part of the personnel, of course.

We see that we cannot get by without a restructuring of the mind even here, without giving up our attitudes of dependency. But this is what sometimes happens. When the commission accepts the ship, it signs the papers and gives a good evaluation of the quality of the work, but the complaints start flooding in as soon as the ship puts out to sea. Why were firmness and concern not shown at the right time? When one commander who had accepted a ship following repairs was recently asked about this, he could offer nothing better by way of justification than to say that there had been no such instructions. What kind of instructions? Not to compromise? To defend the interests of the ship and the fleet by every possible means? Let us say that at some previous time he had found no support in such a situation. The climate is different now, however, and every one of us must struggle to establish it, the climate of restructuring, even more solidly, to keep us from sliding backward. It is not enough to be just a passive proponent of the renewal; one must be an active creator of it.

[Question] It is not so easy, apparently, to change a work style which has developed over the years"?

[Answer] We have no time to waste getting used to things, though. How could we even talk about getting used to things, when the old work forms and methods have not simply outlived themselves, but are actually in conflict with the new demands of life. There was a reason why we mentioned the so-called "instructions," without which certain commanders, it turns out, cannot take a single step. This is the situation: on some ships and in some subunits, they cannot completely implement absolutely precise and clearly stated orders and instructions—those governing the organization of classes in a specialty, as an example—and are not altering their work style. They are waiting for some kind of special order.

The complacency and the spirit of compromise with respect to shortcomings evident in the service performance of certain officers are being abandoned too slowly, for example. They sometimes try to pass serious deficiencies off to us as "individual unfinished matters," just as they attempt to pass off insignificant, secondary achievements as something highly meritorious. Some time ago we changed our approach in assessing the state of affairs in the military collectives. We compare what the commander has done and what kind of initiative he has demonstrated in the area entrusted to him. This makes it clear immediately who is worth what, and what the output from his labor is.

This still only the beginning, however. The work style of commanders is now truly one of the most complex questions. The fleet's command element and military council are counting on more active participation by the party organizations, in which the vital position of every Communist and his moral makeup are shaped.

[Question] There are more problems in life than ready solutions. Nonetheless, there is probably a universal approach which makes it possible to find the correct solutions in the most complex situation, is there not?

[Answer] We have already discussed it. It seems to me that any difficulty is surmountable if we develop in the people a desire to restructure, and this,

if we analyze it, is inseparably linked with the overall task of vitalizing the human factor. All of us need to be more demanding of ourselves, of everything occurring around us. Right today, we need to increase our effort in the work, to achieve a new quality in it, without waiting for some sort of additional instructions. This will be a real contribution to the strengthening of combat readiness.

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KHRONOPULO ARMY-NAVY DAY INTERVIEW

Moscow NEDELYA in Russian No 7, 16-22 Feb 87 p 14

[Interview with Mikhail Nikolayevich Khronopulo, commander of the Black Sea Fleet, by Viktor Vodolazhskiy under the rubric "23 February is Soviet Army and Navy Day," Sevastopol-Moscow: "At the Compass Points of Ocean Watch"; first paragraph is NEDELYA introduction]

[Text] On the eve of the holiday Admiral Mikhail Nikolayevich Khronopulo, commander of the Black Sea Fleet, received a special NEDELYA correspondent on the ship.

The sprightly, snow-white launch of the fleet headquarters secured alongside the missile cruiser Slava. I climbed the steep ladder to the deck. The officer of the watch accompanied me to the admiral's quarters. The meeting was scheduled for 16:00. The hands of the ship's clock barely showed "four," when an aide reported:

"The commander invites you in."

A tall, stately sailor with large stars on his shoulderboards raised himself slightly from behind a desk.

... These were the admiral's quarters at sea. Along the walls were maps of seas and oceans, shelves with books and atlases, and in the corner a globe. On the desk was a mock-up of a ship and a bust of Ushakov.

"I have admired Admiral Ushakov since my years as a cadet," Mikhail Nikolayevich said, noticing my glance. "I believe I have read everything written about him. Ushakov represents not just the history of our fleet, but also the spirit of our fleet today. A great naval leader, he beat the enemy in the Suvorov manner, not with numbers but with ability. Aleksandr Vasilyevich himself said the following of him: 'I regret that I was not at least a midshipman at Corfu.'"

[Question] If there had not been Admiral Ushakov's sailing fleet, the present-day fleet would probably not exist, would it? And we would not be on the missile cruiser Slava right now?

[Answer] You are right. Incidentally, the name "Slava" [Glory] came down to us from our forefathers. The shores of the Bosporus first saw a Slava, the

16-cannon Russian frigate, in 1772. At that time, the frigate, commanded by Lieutenant M. Voynovich, fought a brilliant battle with Turkish ships in Lagos Bay in the Mediterranean Sea.

Thus began the glory of the Black Sea Fleet.

It was borne further by five ships with the proud name "Slava." The crew of the fourth stormed the Winter Palace at full strength in October 1917. Another cruiser named "Slava" traveled 11,000 fighting miles in the Great Patriotic War. Its sailors fought at Odessa and Sevastopol and were landed at Kerch and Feodosiya.

[Question] Comrade Admiral, now is the very time to tell about the fleet which you command, is it not?

[Answer] I agree. The Red Banner Black Sea Fleet is a component of the nation's Navy, established to guard the homeland's southern borders. Today, it has formations and units of surface ships and submarines, and naval aviation. We sailors say that the fleet has a balanced makeup.

Our ships make cruises also in the Mediterranean. Everyone knows that the USA keeps its 6th Fleet, the main striking force of the United States in that region, at Mediterranean shores, and conducts joint exercises with NATO navies. The Mediterranean is an area in which NATO is constantly manifesting all sorts of aggressive aspirations. Their goal is clear: to threaten us, our friends in the fraternal socialist nations, and other peoples fighting for freedom, independence and social progress. And this is why our ships sail these waters—to restrain the ambitions of imperialism's strategists.

It was stated at the January 1987 Plenum of the CPSU Central Committee that "in the current, complex international situation, the Communists and all army and navy personnel will act with the greatest responsibility, increase and improve the skill and combat readiness of all the services and branches of troops." We accepted these words as our combat mission. The Black Sea sailors are vigilantly standing their watch. The high level of training of personnel in the Black Sea Fleet affirms that it is constantly prepared to carry out any order from the homeland.

[Question] Service in the navy involves long cruises, circumnavigation of the world.... Where does one find our ships today?

[Answer] On the eve of Soviet Army and Navy Day, we have warships in both the Atlantic and the Indian Ocean. At the end of last year Black Sea Fleet sailors made friendly calls at the Greek port of Piraeus and in Cuba.

[Question] I recently made the acquaintance of two officers of the fleet, Viktor Alekseyevich Krikunov, commander of the missile cruiser Slava, and Aleksandr Vladimirovich Chelpanov, commander of the large ASW ship Komsomolets Ukrainy. Both of them are young, but each of them has training and respectable length of service as a commander behind him. The main thing is that one senses that they enjoy unquestionable prestige. In your opinion, what makes up naval prestige?

[Answer] There are many components. In the first place, a commander must be a skilled seaman, must handle the ship boldly, moor it gracefully, and maneuver it with class. In the second place, he must know at least as much as the chief mechanic, radio operator or missileman. In the third place, he simply must be a sincere and understanding person. It is not for nothing that the seaman call any commander "father."

[Question] You have spent 35 years in the navy. What is it about the sea that you love?

[Answer] I love it because it... is the sea! I am confident that there is no sailor without a love for the sea. It develops in an individual courage, a feeling of comradeship and the ability to stoically withstand difficulties. Without these qualities, one will not survive in the small collective, bound together in the close space of a combat ship separated from land for months.

Naturally, everything possible is done on the ships to keep that separation from being felt. During my cadet days every seaman settled down on the mess deck with his bowl during mess, for example, but today they have comfortable messhalls and ward-rooms. The ward-rooms have radios, and the lounges have television sets, tape-recorders and record-players. All of this would not allay the longing for shore, however, if the seaman were not united by a sense of military duty, an awareness that they are guarding peace while they are at sea.

[Question] Mikhail Nikolayevich, you recently graduated from the General Staff Military Academy. You would not seem to be of cadet age. Was the training difficult for you?

[Answer] But then it is easier in combat, as Suvorov said. It is good to study at any age, all the more when you are being trained to lead a fleet. Leading a fleet is a great responsibility!

[Question] Where and how did you begin the path leading to admiral?

[Answer] Generally speaking, I am a ship gunnery officer by training. I completed the Pacific Higher Naval School imeni Makarov and began serving in artillery sections on cruisers. I served as executive officer and commander of an ASW missile ship, and I commanded a formation after graduating from the Naval Academy. All of this was in the Far East. I have not been in the Black Sea very long.

[Question] They talk about a naval family and naval traditions.... Were there any sailors in your family?

[Answer] My family was strictly of the land. My father was a scientist. My mother, Varvara Yevstafyevna, was a housewife. She lived in Tyumen and did not want me, her only son, to become a sailor.

I did not try to keep my son from it. I even take fatherly pride in the fact that Sergey chose to be a sailor. He is now a captain-lieutenant.

[Question] Is it true that the specific nature of the naval service leaves a special mark on a person's character, on his way of life?

[Answer] Of course it does! I have to admit that I did not see my Serezhka grow up. How could I, when I spend several months a year at sea? It is the same for each of us.

This is why such primordial feelings as love, loyalty and the warmth of the family hearth are so dear to people who live the navy life. They provide warmth thousands of miles away from home.

[Question] Do admirals sail a lot?

[Answer] Sailors "travel".... If you counted up the miles I have furrowed the seas, it would amount to several trips around the world. I have made official calls alone at ports in Mozambique, at Mauritius, in the Seychelles, in Algeria, India....

[Question] Have you ever sailed on a sailing vessel?

[Answer] I haven't just sailed; I have set records! In '64 the crew of the yacht Svetlana and I sailed 1,500 miles between Vladivostok and Sovetskaya Gavan. We took first place in the Union in long-distance competition cruises.

And now... I want to interview you. (Admiral Khronopulo said this with a smile.) You see, I would like to know the opinion of a land person. How do you view a military ship?

[Interviewer] Well,—I thought for a moment—one is amazed, of course, by the size and speed of the ship, by the modern armament, the way the compartments and other areas on the ship are crammed with the most advanced gear, equipment and instruments. Then there is the navy order. Not every housewife has such order in her home. Another thing: wherever you are, the ship's radio can always find you to announce that the crew is to begin moving to the messhall, or something like that.

[Answer] Okay, I am satisfied. Your impressions are generally correct. Translating them into "naval language," a military ship is indeed an extremely strong alloy of good technical equipment, military skill and the highest of morale in the personnel. It has various weapons systems, electronics and the most advanced navigational equipment, and all of this is operated by skillful and powerful hands.

[Question] Comrade Admiral, permit me to speak for the readers of NEDELYA and wish you a happy Soviet Army and Navy Day! In conclusion, I would like to ask how you ordinarily spend the day on 23 February. And in general, what is the commander's day—and not just a holiday—like?

[Answer] I always visit the ships on the 23rd to congratulate the personnel....

The commander directs the fleet. Considering the scope of the Black Sea Fleet's operations, I cannot imagine working without a rigid plan. I have one—for the day, the week, the month. I demand this also from my subordinates. There is not a minute when I do not know what to do. You probably noticed that my reception room is usually empty. People who are summoned arrive precisely at the designated time, because they know that I will not see them any earlier or any later than that.

The precise schedule helps me to devote greater attention to party and soviet work. I am a member of the Central Committee of the Ukrainian Communist Party and a deputy to the Sevastopol City Soviet. I have regular receiving hours as a deputy.

... The hands on the clock stood at the number 5. The admiral rose in parting and vigorously shook my hand.

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NAVAL FORCES

YASAKOV REVIEWS GORSHKOV BIOGRAPHY

Moscow KRASNAYA ZVEZDA in Russian 3 Mar 87 p 2

[Review by Vice Adm N. Yasakov under the rubric "Comments on Books" of "Admiral" [The Admiral] by P. Ablamonov, Politizdat, 1986, 112 pages]

[Text] "For the sailor, there is no difficult or easy way. There is only one way—the glorious way." These words by Russian naval leader P.S. Nakhimov were used as the epigraph to the book "Admiral" published by Politizdat in the series "Heroes of the Soviet Homeland." The book is about twice Hero of the Soviet Union, Fleet Admiral of the Soviet Union S. Gorshkov.

Soviet power raised millions of ordinary individuals, individuals from the [common] people, up to the heights of creative labor. This can be seen from the life of S. Gorshkov, who came from a teacher's family. After graduating from a naval school, he went through all the stages of naval service and performed in a worthy manner as commander of a ship and a unit. He went into the Great Patriotic War as the fully developed commander of a large formation of the Black Sea Fleet.

S. Gorshkov's talent particularly revealed itself during the fiery years of the war. The first two chapters of the book, "Remembrance" and "In the Flames of Battle," cover this period of the admiral's life.

The war was always filled with unexpected events. It taught Rear Admiral Gorshkov lessons which are not to be found in any textbook. A flexible mind, initiative and independence were demanded at each unexpected turn of events. The commanders and staff workers gave due credit to the original decisions of their chief.

The book depicts S. Gorshkov in various positions: as a formation commander, a flotilla commander, and as deputy commander of the Novorossiysk Defensive Area. The actions of the formation and the units which he commanded were mentioned more than once in orders issued by the Supreme Commander.

S. Gorskhov's role in the life of the navy when the party advanced him to the responsible position of commander-in-chief of the Navy occupy a special place in the book. Events had developed in such a way that by that time extensive work was underway to establish a powerful nuclear-missile fleet, and to Sergey

Georgiyevich fell the honor of directing that large job. This was a time of heroic accomplishments. The labor of everyone—designers, engineers and workers—was akin to a feat. People spared neither strength nor time in their labors. The workers did not leave the shops; the scientists, the laboratories. This was necessitated by the situation. Threats were continuously heard from overseas.

One reads with excitement the descriptions of long submarine cruises. Soviet nuclear-powered submarines demonstrated their fine navigational capabilities beneath the ancient ice of the North Pole and in tropical latitudes. Many submarineers were awarded combat orders and medals for outstanding feats and skillful use of the equipment. More than 20 men were awarded the great title Hero of the Soviet Union.

The chapter "On A Long Ocean Cruise" tells about events in which I participated. The reader gets a picture of the "Okean" maneuvers, a number of exercises and long ocean cruises. The author cites exciting incidents describing the good feelings which residents of foreign states have for the Soviet sailors. The truth about the Soviet navy, about the homeland of Great October and about the Soviet way of life unfolds from one call to the next. Our sailors represent their nation in a worthy manner, and they are therefore frequently referred to as plenipotentiaries of the Soviet Nation. They deservedly evoke admiration in the residents of many states.

Reactionaries do everything possible to convince the public in their nations that the Soviet navy threatens other peoples and has aggressive goals, however. The book quotes the words uttered by S. Gorshkov in one of his speeches: "During the entire history of our navy, not a single one of our ships has left for sea with aggressive objectives, has ever intended to attack foreign ships or shores, to interfere in the internal affairs of other nations, to intimidate their peoples with the power of its awesome armament. Such actions, which have become an inseparable part of the daily activities of navies of the imperialist powers even in peacetime, are fundamentally alien to our navy."

In the concluding pages of the book, the author describes the admiral's public and scientific activities. Today, Sergey Georgiyevich is a member of the CPSU Central Committee and a deputy to the USSR Supreme Soviet. He devotes all of his energies to strengthening the homeland's defensive power.

I believe that P. Ablamonov's book "Admiral" will be of interest to a broad range of readers.

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MILITARY HISTORY

REVIEW: 8th AIR ARMY

Moscow KRASNAYA ZVEZDA in Russian 21 Jan 87 p 2

[Review by Marshal of Aviation Ye. Savitskiy, twice Hero of the Soviet Union, under the rubric "New Books" of "Vosmaya Vozdushnaya" [The 8th Air Army] by B. Gubin and V. Kiselev, Voyenizdat, 1986, 240 pages]

[Text] An extremely tense situation developed in the summer of 1942 on the southern flank of the Soviet-German front. The Hitlerite troops broke through the front and began a rapid advance toward the large bend of the Don. The 8th Air Army was created at this very time by decision of the Headquarters of the Supreme High Command. And it immediately entered fierce combat. In just the first 2 days, the army's pilots destroyed and damaged 78 enemy tanks, 211 trucks with troops and military supplies, and seven fuel trucks and destroyed two crossings of the Severskiy Donets. Courage and skill were displayed at the same time.

The military history essay "Vosmaya Vozdushnaya," recently published by the Military Publishing House, is devoted to the history of the army and the exploits of its fighting men. Based on extensive factual material, the book describes the formation of the army under the difficult conditions which had developed with the advance of German troops and its actions in the Battle of Stalingrad and further combat from Stalingrad to Prague. The book tells of the army's participation in 20 frontal operations of the Great Patriotic War, including the one at Stalingrad and to liberate the Donets Basin, Crimea, Transcarpathian Ukraine, southern Poland and most of Czechoslovakia.

The army's personnel covered themselves with everlasting glory in the fierce battles on the Southwest, Stalingrad, Southeast, Southern, the 4th Ukrainian (in the Crimea and Carpathians) and the 1st Ukrainian Fronts. Twenty-three of the army's pilots displayed the highest form of heroism, ramming concentrations of enemy troops on the ground in aircraft put out of action in battles. Ten pilots rammed the enemy's aircraft in air engagements. Under enemy fire, eight pilots took out their comrades forced down in disabled aircraft in enemy-occupied territory.

The authors of the military history essay, Major General of Aviation V. Kiselev, retired, candidate of military sciences and senior scientific collaborator; and Colonel B. Gubin, retired, who are veterans of this army and

participants in the events described, have thrown light on the best features and high moral and fighting qualities of Soviet aviators and have shown in specific examples their steadfast determination and high military skill, courage and valor in battle, and their boundless love for the Motherland and devotion to the great work of the Communist Party, which indoctrinated them and inspired them to feats of arms.

The reader will become familiar with the contribution of the air army's aviators in developing the strategy and tactics of the Soviet Air Forces, their struggle for air supremacy, organization of interaction with the Land Forces and massing of efforts in the main directions of combat operations.

The army's personnel carried out combat missions of command in engagements for the Motherland in an exemplary manner, displaying a high degree of organization and discipline, for which many formations and units were converted into guards units and awarded orders of the Soviet Union. Gratitude was expressed to them 27 times in orders from the Supreme High Command, and those who especially distinguished themselves were awarded honorary titles.

During the war the air army made 220,000 combat operational flights, engaged in 4,000 air engagements, and shot down over 3,000 enemy aircraft; more than 1,000 enemy aircraft were destroyed and taken out of action on the enemy's airfields.

The book gives an account of the many outstanding pilots, such as thrice Hero of the Soviet Union A. Pokryshkin, twice Hero of the Soviet Union A. Alelyukhin, L. Beda, V. Lavrinenkov, I. Polbin, and others. It notes that over 400 Heroes of the Soviet Union fought as members of the 8th Air Army over the various periods of its operations.

The victory by personnel in the air was forged on the airfields, and the book shows conclusively how engineering and technical personnel of the units, specialists in the rear area and communications, and staff officers provided for the successful execution of combat missions, devoting all their efforts, knowledge and abilities to this.

Throughout the army's combat service, the book points out, intensive organizational work by commanders, political organs, and party and Komsomol organizations, which inspired personnel for selfless combat with the enemies, played a large role. Communists and Komsomol members served as a model of military valor.

I believe that the book "Vosmaya Vozdushnaya" has more than military history and cognitive significance. It may be used very successfully in military-patriotic and educational work to instill in today's youth a sense of high patriotism, responsibility for the fate of the Motherland and readiness to stand up for its defense. It will also help commanders and political workers in the combat and political training of young aviators and inindoctrinating them in the glorious military traditions.

FOREIGN MILITARY AFFAIRS

SPECULATION ON FUTURE AIRCRAFT DEVELOPMENT THROUGH YEAR 2000

Moscow KRASNAYA ZVEZDA in Russian 21 Jan 87 p 3

[Article by engineer N. Yakuba under the rubric "Military and Technical Survey": "Aviation on the Threshold of the New Century"]

[Text] What will they be like, the aircraft of the near or relatively near future? Their design configurations, powerplants and equipment? Research being conducted in different countries gives reason to assume that by the year 2000, aircraft which are far superior to current ones in many aspects of performance, reliability and economy will be developed. Success in all this work is related to prospects for improvement in the methods of computer-aided design.

It is assumed that centers for designing, simulation and optimization will be created on the basis of supercomputers. Development of computer technology and measuring methods will make it possible to more thoroughly study the dynamics of fluids and gases, to expand research on the phenomena of turbulence stimulation and vortex generation, to become acquainted with the many new laws on the behavior of the boundarylayer and the separation and joining of flows, and to simulate complex processes of streamlining. All this will also make it possible to significantly improve the aerodynamics of aircraft and to reduce their design, induced, and shock-wave drag.

Second-generation supersonic transport aircraft are expected to make their appearance at the beginning of the new century. Progress in aerodynamics and materials technology has already made it possible to build an aircraft of the "Concorde" type now, but with half as much mass and fuel consumption.

A plan for a 250-seat aircraft designed to fly at Mach 2.7 with a range of 10,000 kilometers is under discussion in the foreign press. Because it has a reduced reserve of static stability, this aircraft will be flown only with the aid of an on-board computer. Electric remote-control systems and electric drives utilizing special magnetic materials will make it possible to discontinue use of hydraulic pumps and hydraulic system pipelines. It is proposed to make use of new aluminum alloys, titanium, and composition materials with nonmetallic and metallic matrices. The aerodynamic efficiency of the new aircraft will be increased to 17, compared with 7.3 for the "Concorde."

The plan for a twin-fuselage supersonic transport designed to carry 500 passengers is also highly interesting (Figure 1). Along with such giants, relatively small supersonic "executive" aircraft also are being developed. The magazine AVIATION WEEK AND SPACE TECHNOLOGY notes that it is proposed to use a skin with fine lengthwise ribbing to improve the streamline flow, and that a highly productive bus for the transmission of digital data will replace 75 kilometers of wire. They believe that aircraft of the future will have electrohydrostatic linkage for the control surfaces, that optical communication lines will make their appearance in the control system, and that significant fuel economy can be expected.

A general trend which is typical for all aircraft manufacturing in the world is more and more extensive use of composition materials. According to data from the Lufthansa airline (FRG), reducing the mass of an aircraft by 10 percent through the use of composites will lead to a 2.7-percent decrease in operating expenditures.

Military aviation has its own paths of development. According to the magazine FLIGHT INTERNATIONAL, more than 150 specialists and experts in the U.S. Air Force have been engaged in selecting the most promising programs for the next 20 years. Out of 1,000 new concepts, they are to select about 20. As reported, hypersonic aircraft, new fuels and powerplants, on-board computers, critical analysis of the cockpit, and so forth are being accorded top priority. A spacecraft-airplane is on the agenda.

By making the usual takeoff and landing, such an aircraft will be able to fly at an altitude of 43 kilometers at a cruising speed of Mach 14 or go into orbit as an artificial satellite at Mach 25. Development of such an aircraft is possible as early as the end of this century. The concept is tempting, wrote the magazine FLIGHT INTERNATIONAL, but a number of complex problems will have to be resolved before the project can be realized. One of them is the development of totally new engines with several operating cycles. It is proposed to utilize powerplants consisting of a combination of gas turbine and ramjet engines for the low hypersonic speeds, and hypersonic ramjet and rocket engines at the higher speeds.

Liquid hydrocarbons, methane or hydrogen may be used as fuel for such powerplants, the foreign press notes. The use of hydrogen is preferred, but a new problem arises—the development and reliable operation of cryogenic fuel systems.

The tremendous flying speeds will also require fundamentally new control systems. Flying such aircraft, foreign observers note, will become possible only with the aid of a computer which receives and processes the data from numerous sensors monitoring the status of all systems. It will keep track of the flow patterns, loads and temperatures, and will give commands for deflection of the control surfaces.

Three types of hypersonic aircraft are being discussed in the foreign press. A second-generation spacecraft-airplane which will replace the Shuttle is expected to make its appearance first. According to the magazine NEWSWEEK,

the cost of putting cargoes into orbits with the new craft will be much less. Military hypersonic aircraft in reconnaissance and interceptor versions are expected to make their appearance (Figure 2).

In addition to such high-speed and high-altitude aircraft, ones in the current operating range will be built as well. One of these interceptors (Figure 3) is to have a speed of Mach 3.5 and a ceiling of about 30 kilometers.

The main obstacle which its builders have to overcome, the foreign press notes, is the high temperatures: heating of the leading edges of the wing, tail surfaces and air intakes will reach 540 degrees Celsius, and the air temperature in front of the engine's turbine will increase to 1.650 degrees C.

Considerable attention is being devoted abroad to the development of short-takeoff and vertical-landing aircraft capable of operating from damaged runways. One such interceptor (Figure 4) will have a cruising speed of Mach 2 to 2.5. High maneuverability should be the principal feature of this aircraft. It will be provided by automatic control of the thrust vector and control surfaces.

Incidentally, regarding the thrust vector. foreign specialists maintain that the very concept of controlling it is gaining more and more acceptance. The use of such a system on the ground and in flight will make it possible to increase maneuverability, reduce the area and drag of control surfaces, decrease takeoff and landing speeds, and increase the payload.

Undercarriage legs which thrust also are considered a promising development. Evaluating their advantages, the magazine AVIATION WEEK AND SPACE TECHNOLOGY notes that the use of such landing gear will make it possible to reduce the takeoff run by 60 percent.

The possibility of building combat aircraft with an asymmetric wing is also being examined. According to the magazine AEROSPACE AMERICAN, the advantage of such a wing is that when it is turned there is practically no shift in the aerodynamic center. This makes it possible to reduce the mass of the stabilizer and the balancing load acting on it and to decrease induced drag.

The ways of improving wings coming from the foreign press are not limited just to a change in the angle at which they are mounted. Work is being conducted to develop wings which change their shape depending on the flight mode. A special device bends the leading and trailing edge assemblies of the wing, retaining the smoothness of its contours.

Serious attention is being devoted abroad to increasing the survivability of combat aircraft operating under strong PVO [antiaircraft defense] conditions. The basic directions of work to reduce radar, heat and visual detectability are the development of configurations with smooth contours and the use of radar-absorbent [radiopogloshchayushiye] materials. The design of the subsonic ground-attack aircraft depicted in Figure 5 meets many of these requirements.

In discussing the development of military aviation, foreign specialists note that there is clearly a trend toward building more multipurpose combat aircraft.

Such are the general prospects for aviation development on the verge of the new century. Time will tell what will be materialized in actual construction and what will remain in designs. But one thing is certain—the rapid progress in this field of technology promises many changes.

FOREIGN MILITARY AFFAIRS

GROWING MILITARY-POLITICAL SIGNIFICANCE OF INDIAN OCEAN

Moscow KRASNAYA ZVEZDA in Russian 4 Feb 87 p 3

[Article by Captain First Rank Ye. Nikitin under the rubric "The Policy of Peace Against the Policy of War": "The Indian Ocean: Who Is Undermining the Stability"; first paragraph is editorial introduction]

[Text] The Indian Ocean formerly was called "the backyard of the third world." Now they call it the ocean of the future. And it is no wonder: this region is one of the richest in natural resources. Important sealanes linking Asia, Africa and Australia pass through it. There are 44 states in this region where nearly one-quarter of the world's population live.

The growing importance of the Indian Ocean coincides with the increased foreign military presence in this region and with the emergence of dangerous breeding grounds of military conflict. And this is primarily the fault of Washington, which has arbitrarily included Southwest Asia and the Middle East in its "zone of vital interests."

At present, the United States already has up to 30 military bases and strong points in the Indian Ocean region. The central link in this system is the United States' naval and air base on the island of Diego Garcia, which was seized from Mauritius. Others are stationed in Kenya (Mombasa), Somalia (Berbera, Mogadishu and Hargeisa), Saudi Arabia (Dhahran), Bahrain (Al Manamah), and Oman (Tamarite). The Pentagon is persistently seeking to get hold of ports in Sri Lanka, Pakistan, Bangladesh, and in the Comoro and Maldive Islands for its needs.

These bases and ports are necessary to the American VMS [Navy] for further "utilization" of the Indian Ocean. The naval grouping of the United States is made up of 1 to 2 multipurpose carriers (up to 180 combat aircraft on board), 2 to 4 missile cruisers, 9 to 12 destroyers and frigates, 2 to 3 multipurpose nuclear submarines, and 12 to 18 support ships. At a time when the situation in the Indian Ocean becomes aggravated, such as in 1980 during the revolution in Iran, the strike forces of the United States have been practically doubled there. American B-52 strategic bombers and AWACS aircraft make regular overflights of the ocean.

The interventionist rapid deployment forces are aimed at this region first of all. At this time, as U.S. Secretary of Defense Weinberger stated in his report to Congress, "the contingent of forces designated for this region has been brought up to more than six land divisions and more than 600 tactical aircraft." These forces are included in the so-called Central Command (Centkom), where 19 countries of South and Southwest Asia, the Middle East, and Northeast and East Africa are under its sights. According to Weinberger, the Pentagon's objective is to "deploy units of these forces in forward lines in peacetime." It became known recently that Washington already has an agreement on this count with Pakistan. The continuous maneuvers in this region by the rapid deployment forces are direct preparation to carry out aggression.

In a word, the overall orientation of the United States' militarist policy in the Indian Ocean is being implemented in conformity with the cynical revelation by Pentagon boss Weinberger: "This is a region where the terms 'parity' or 'equality' are unacceptable to us."

But in order to have grounds for building up military preparations, Washington is not sparing efforts to whip up regional conflicts. So the American President stated recently that escalation of the military actions between Iran and Iraq "represents a threat to the the interests of the United States and its friends and allies." But after all, it was namely Washington that added fuel to the fire of this conflict by sending weapons to one of the belligerents.

By carrying out militarization of the Indian Ocean, Washington is attempting to create a direct threat for the Soviet Union. Although the Indian Ocean is farther than any other geographical region from the United States, it is situated near the southern borders of our country. Moreover, the only sealane linking the ports of the European part of the USSR with ports in the Soviet Far East that is open year-round passes through the Indian Ocean. Finally, the international waters of this ocean are utilized to support the peaceful space activity of the USSR. For this reason, one need not be an expert to understand against whom the pointed militarist activity of the United States in the Indian Ocean is primarily directed.

But this far from exhausts the United States' aggressive schemes. Dotted with military bases and filled with nuclear missiles, the Indian Ocean is also needed by Washington to establish its military and political control over the sovereign island and continental states and to interfere unceremoniously in their internal affairs. The United States also seeks to provide for Western, mainly American, monopolies' unimpeded plunder of the national resources of these states as well as exclusive use of resources from the ocean floor. This is why the United States is blocking any measures aimed at normalizing the situation in the Indian Ocean and demilitarizing it, including implementation of the Declaration proclaiming the Indian Ocean a zone of peace, adopted as far back as 1971 by the UN General Assembly.

Militarization of the Indian Ocean creates a threat to the safety not only of the peoples of the region, but to the world as a whole. The Soviet Union and India, in a joint statement adopted on results of the visit by M. S.

Gorbachev, general secretary of the CPSU Central Committee, to India, expressed concern about the further aggravation of the situation in the Indian Ocean region, and called for the elimination of all existing foreign military bases there and a ban on the establishment of new ones. Both sides condemned the attempts to build up military presence in the Indian Ocean and expressed support for the UN General Assembly decision on the convocation of an international conference on the Indian Ocean no later than 1988.

Remaining true to its principle of reinforcing good words with practical deeds, the Soviet Union is prepared to begin talks at any time with the United States and other coastal states which have warships in the Indian Ocean on a permanent basis on the substantial reduction of naval forces there and their activity. The USSR is prepared to hold talks with the United States and Asian countries concerned on measures of trust in the military field as applied to Asia and the contiguous water areas of the Indian and Pacific Oceans. particular, we mean notification concerning the transfers and maneuvers of ground (amphibious), naval and air forces of these countries. The Soviet Union supports the holding of multilateral talks among all states using the waters of the Indian Ocean for the purpose of guaranteeing the safety of maritime communications, including the Persian Gulf and the Straits of Hormuz and Malacca, as well as to guarantee the sovereignty of coastal countries and their natural resources. It has long been necessary to work out a multilateral agreement on the safety of air service over the Indian Ocean, and the Soviet Union is prepared to carry out the appropriate work in this direction. Other problems could be mentioned which affect safety in Asia, which the Soviet Union is prepared to resolve at any time in a spirit of good will and constructive cooperation.

Every day the press services carry reports that new initiatives by the Soviet Union aimed at normalizing the political climate in Asia have been welcomed with profound understanding by the progressive public. Against the background of openness and honesty of the peace-loving policy of the Soviet Union directed at the welfare of Asian countries, the sinister plans of American imperialism, which are counting on maintaining tension and are undermining political stability in the Indian Ocean region, are becoming still more apparent.

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